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Use of spin labels to study membrane proteins by high-frequency electron nuclear double resonance spectroscopy

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Abstract

The applicability of spin labels to study membrane proteins by high-frequency electron nuclear double resonance spectroscopy is demonstrated. With the use of bacteriorhodopsin embedded in a lipid membrane as an example, the spectra of protons of neighboring amino acids are recorded, electric field gradients at the membrane surface are detected, and the constant of hyperfine interaction with the chlorine nucleus at the site of ion trapping is measured. © 2007 Pleiades Publishing, Ltd.

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